UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

3D SYSTEMS, INC.,	)	
	)	
Plaintiff,	)	
	)	Case No. 2:05-cv-74891
v.	)	
	)	Hon. Avern Cohn
ENVISIONTEC, INC., ENVISIONTEC GMBH,	)	Magistrate Judge R. Steven Whalen
and SIBCO, INC.,	)	
	)	
Defendants.	)	
	)	

**DECLARATION OF DR. PAUL F. JACOBS IN SUPPORT OF DEFENDANTS'
MOTION FOR RECONSIDERATION AND CLARIFICATION OF ORDER
GRANTING PLAINTIFFS' MOTION TO DISQUALIFY CO-INVENTOR
DR. PAUL JACOBS AS DEFENDANTS' EXPERT**

I, Dr. Paul F. Jacobs, submit this Declaration in support of Defendants' Motion for Reconsideration of the Order Granting Plaintiffs' Motion to Disqualify me as Defendants' expert. The facts set forth below are based on my personal knowledge, and if called to testify, I could and would testify competently thereto.

1.   I was the Director of Research & Development for 3D Systems, Inc. from 1989 until 1997. During that time, I directed research with respect to the fundamentals of the stereolithography process and also helped developed numerous important commercial applications. I am also the author of the first book in the field: "Rapid Prototyping & Manufacturing: Fundamentals of Stereolithography" which was published by SME in 1992 while I was employed at 3D Systems, Inc. Subsequently, I authored another volume: "Stereolithography and Other RP&M Technologies" that was published jointly by SME and McGraw-Hill in 1996. I have written over 130 publications and have been a teacher at UCLA, Princeton University, Clemson University, and Worcester Polytechnic Institute. I am a named inventor on 21 United States patents.

2.   I submitted a Declaration in support of Defendants' Motion for Summary Judgment of Non-Infringement on August 4, 2008. That Declaration has also been submitted in Opposition to Plaintiffs' Motion for Summary Judgment of Infringement. Further, I have submitted a second Declaration on December 22, 2008, both in support of Defendants' Motion for Summary Judgment of Non-Infringement and in opposition to Plaintiffs' Motion for Summary Judgment of Infringement. For reasons that I will explain hereafter, I did not have access to any non-public, confidential information while I was employed at 3D Systems which would, in any way, be relevant to my testimony on non-infringement in this lawsuit. It should also be noted that I will only testify on non-infringement in this lawsuit.

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3.   The following is a summary of my testimony regarding non-infringement in this lawsuit:

A. Claim 11 of U.S. Patent No. 5,630,981

(1) The accused Perfactory and Vanquish machines do not provide "data representing adjacent cross-sectional layers of the three-dimensional object to be formed which was generated on a CAD system".

(2) The accused Perfactory and Vanquish machines do not form cross-sectional layers or successive layers adjacent to the previously formed cross-sectional layers.

(3) The accused Perfactory and Vanquish machines do not draw upon a two-dimensional surface.

(4) The accused Perfactory and Vanquish machines do not expose a photopolymer in response to adjacent cross-sectional layer data from a slice file.

B. Claim 81 of U.S. Patent No. 5,902,537

(1) The accused Perfactory and Vanquish machines do not form cross-sectional layers.

(2) The accused Perfactory and Vanquish machines do not have a "computer or equivalent that supplies data that is descriptive or representative of adjacent cross-sectional layers of the object".

(3) The accused Perfactory and Vanquish machines do not include "an applicator".

(4) The accused Perfactory and Vanquish machines do not form cross-sectional layers "over" previously formed cross-sectional layers.

(5) The accused Perfactory and Vanquish machines do not include a vacuum pump.

(6) The accused Perfactory and Vanquish machines do not have a motor-driven threaded shaft for sweeping the applicator across at least a portion of at least some of the previously formed object cross-sections.

(7) The accused Perfactory and Vanquish machines do not form a plurality of object cross-sections nor do they expose the layers in response to adjacent cross-sectional layer data.

C. **Claim 35 of U.S. Patent No. 4,999,143**

(1) The accused Perfactory and Vanquish machines do not use data representing adjacent cross-sectional layers of the three-dimensional object.

(2) The accused Perfactory and Vanquish machines do not include a computer programmed to form a support representation wherein the supports comprise a solid extending between a first object surface and a second surface.

(3) The accused Perfactory and Vanquish machines do not include a CAD generator or any computer that generates a CAD model; the accused Perfactory and Vanquish machines do not use any beam of UV light, an electric beam, a spray and mask, or impinging radiation other than light; and the accused Perfactory and Vanquish machines do not include a

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computer that provides data representing adjacent cross-sectional layers of the three-dimensional object.

D. Claim 2 of U.S. Patent No. 5,651,934

(1) The accused Perfactory and Vanquish machines do not "stereolithographically" form a portion of a three-dimensional object because they do not draw on a two-dimensional surface.

(2) The accused Perfactory and Vanquish machines do not form layers of a three-dimensional object nor do they form a subsequent layer of an object "over" a previous layer of the object.

(3) The accused Perfactory and Vanquish machines do not form a uniform coating of a desired layer thickness. Further, the accused Perfactory and Vanquish machines do not form a uniform coating of a desired layer thickness "over" a previously formed layer.

(4) The accused Perfactory and Vanquish machines do not include a winged blade or any analogous structure for smoothing resin over the previously formed layer with "separate members on a lower surface thereof for contacting the building material".

(5) The accused Perfactory and Vanquish machines do not draw upon a two-dimensional surface.

4.   It is undisputed that I did not receive any confidential information, while I was employed at 3D Systems, regarding voxelization that would "play out" in my opinion that the accused Perfactory and Vanquish machines do not provide data representing adjacent cross-sectional layers of the three-dimensional object to be formed which was generated on a CAD

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system. In fact, it is my understanding that 3D Systems publicly distinguished <u>voxelization</u> by stating in the file history for 3D Systems' '662 patent (one of the patents in suit but not a paradigm patent), that "conversion of CAD/CAM data into defined data points which translate into cubic voxels" is not the same as the "conversion of CAD/CAM data at intersections with planes corresponding to slicing layers". While I did not receive any non-public, confidential information regarding voxelization while I was employed at 3D Systems, it is clear that 3D Systems publicly admitted that voxelization was different than slicing data during the prosecution of one of the patents in this lawsuit. Thus, I did not receive any confidential information from 3D Systems which would play out in my opinion regarding the claim limitation "providing data representing adjacent cross-sectional layers of the three-dimensional object to be formed which was generated on a CAD system".

5.   It is also important to understand that I did not receive any confidential information during my employment at 3D Systems that would "play out" in my opinions on non-infringement with respect to the other claim limitations that were identified previously in this Declaration. In my opinion, I published the substance of my testimony, regarding these other claim limitations, in 1992 when my book "Rapid Prototyping & Manufacturing" was published. The following identifies example excerpts from my book which establishes that I have not used any confidential information of 3D Systems in reaching my opinions of non-infringement:

(a) On pages 11-18 of my book, I describe the basic operation of the stereolithographic units that were designed, developed, and tested by 3D Systems. As set forth therein, I describe the CAD model; the translator for the "tessellated" STL format; generating supports in a separate CAD file; mathematically sectioning the part and the supports into a series of parallel

horizontal "slice" planes; preparing operational parameters for the number of

recoater blade sweeps per layer, the sweep period and the desired "z-wait"

(the pausing after recoating); and leveling after the completion of the laser

drawing on each layer. In addition, I describe the "deep dip" function and the

"sweep" of the recoater blade for providing good thin layer uniformity.

(b) Page 39 of my book is an example of my publication of the layering process.

(c) Page 61 of my book shows the elements of a stereolithographic system.

(d) Pages 119 et seq. of my book describes the software evolution at 3D Systems.

(e) Pages 128-129 of my book illustrate and describe the stair-stepping effect

with respect to the layers along the slice axis.

(f) Pages 130-134 of my book provide a published flow chart algorithm, with

screen shots, of slicing, laser drawing, deep dipping, leveling, and sweeping.

(g) Page 138 of my book illustrates the data flow for the 3D Systems SLA

machine.

(h) Page 144 of my book illustrates different categories of support structures.

(i) Pages 160-167 of my book illustrate part orientation with respect to the slice

axis and support structures.

(j) Pages 175-194 describe the slice process, layer thickness, cured line width

compensation, the slice axis, the build files, and recoating (page 191-192).

(k) My book, which was published in 1992, includes other examples of

descriptions for forming cross-sectional layers, forming successive layers over

previously formed cross-sectional layers, drawing upon a two-dimensional

surface, sweeping the recoater blade across previously formed layers, leveling, forming supports, and recoating.

6.   It is my understanding that 3D Systems has presented no specific evidence that would link any of my opinions on non-infringement to alleged confidential information that I gained during my employment at 3D Systems. 3D Systems did, however, refer to one or two sentences in my declaration and expert reports regarding the "means for sweeping" limitation. Specifically, 3D Systems referred to my statement that: "I recall at one time 3D Systems intentionally used a motor-driven threaded drive shaft to transmit motor vibration to the applicator". Except for this one issue, it is my understanding that 3D Systems did not make any connection between alleged confidential information that I received during my employment at 3D Systems and my other multiple opinions of non-infringement with respect to non-recoater blade claim elements.

7.   With respect to the recoater blade issue, I primarily relied upon the description by Mr. Shkolnik of the flexible rubber belts that are used in the Vanquish machine. At paragraph 16 of his Declaration, Mr. Shkolnik states that the Vanquish device includes dual flexible rubber belts to transmit the movement of the motor to the cooling element because the flexibility of the belts allows them to absorb vibrational energy and reduce the amount of vibration transmitted to the element. Mr. Shkolnik also describes that when the Vanquish machine was designed, there was a recognition that a motor-driven threaded shaft would transmit motor vibration to the resin or the build platform because of the rigidity of the components. Thus, the only sentence from my testimony that is challenged by 3D Systems, is based upon the public information contained in the 3D patents as well as information generally known to one of ordinary skill in the art such as Mr. Shkolnik. That is, the knowledge that a shaft attached to a motor will vibrate during
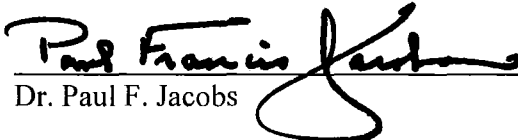
motor operation is obvious and known to anyone of ordinary skill in the art. It does not require confidential information to recognize or understand this basic mechanical principle.

8.   For the foregoing reasons, I should not be disqualified to act as Defendants' expert either in the summary judgment phase of this case or at trial or both. I have not received any confidential information during my employment at 3D Systems which would, in any way, "play out" in my opinions of non-infringement. The only challenge made by 3D Systems to my testimony based upon alleged confidential information, is so trivial that the Defendants should not have to obtain a new expert for either the summary judgment phase of this case or for trial.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on this, the ___22nd___ day of December, 2008.

Dr. Paul F. Jacobs

CERTIFICATE OF SERVICE

I hereby certify that on December 22, 2008, I electronically filed the foregoing paper with the Clerk of the Court using the ECF system which will send notification of such filing to the following: Jonathan A. David, Susan M. Kornfield and Alan N. Harris.

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s/R. Terrance Rader
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